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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,873	12/15/2006	Giuseppe Conti	291050US0X PCT	8677
22850	7590	04/15/2010	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314			QIAN, YUN	
ART UNIT	PAPER NUMBER			
	1793			
NOTIFICATION DATE	DELIVERY MODE			
04/15/2010	ELECTRONIC			

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/578,873	<b>Applicant(s)</b> CONTI ET AL.
	<b>Examiner</b> YUN QIAN	<b>Art Unit</b> 1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### **Status**

1) Responsive to communication(s) filed on 18 December 2009.

2a) This action is FINAL.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### **Disposition of Claims**

4) Claim(s) 1-13 is/are pending in the application.

4a) Of the above claim(s) 14-52 is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-13 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### **Application Papers**

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### **Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### **Attachment(s)**

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08)

Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_

5) Notice of Informal Patent Application

6) Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

Applicant's election of Group I claims 1-13 with traverse in the reply filed on December 18, 2009 is acknowledged.

Applicants' arguments are not found persuasive because the office actions mailed on September 9 and November 18, 2009 did point out the special technical feature linking the inventions, such as a MgCl<sub>2</sub>.3EtOH(applicant's magnesium, chloride ion and organo-oxygenated protic compound Dp-EtOH), TiCl<sub>4</sub> and ester (applicant's neutral electron-donor aprotic compound D) taught by Garoff et al.

In addition as discussed in the following in this office action, Garoff et al. teaches a molar ratio of Mg/Ti=1.55, EtOH/D =0.3, D/Ti=1.0, when X<sup>3</sup> = X<sup>4</sup>=Cl, x=3, Cl/Ti =10 (Table 3 example 3, col.7, lines 31-41, claims 3-5).

Therefore, restriction is appropriate.

The requirement is still deemed proper and is therefore is made FINAL.

Claims 14-52 are withdrawn from consideration.

***Specification Objection***

The abstract of the disclosure is objected to because it contains more than 150 words. Correction is required. See MPEP § 608.01(b).

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 7-10 and 13 are rejected under 35 U.S.C.102 (b) as being anticipated by Garoff et al. (US 6,200,923).

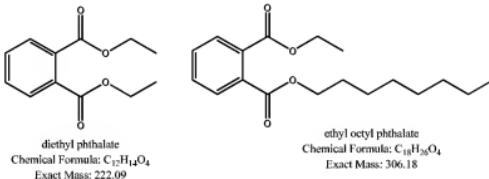
Regarding claim 1, Garoff et al discloses polymerization catalyst  $(MgX^3_2)_xTiX^4(R(COOR')_n)_y$  containing magnesium (i.e.  $MgCl_2 \cdot 3EtOH$ , applicant's magnesium, chloride ion and organo-oxygenated protic compound Dp), titanium tetrahalide (i.e.  $TiCl_4$ ), and ester (i.e. di-undecylphthalate, diethyl phthalate and ethyl octyl phthalate and phthalic acid ester, applicant's neutral electron-donor aprotic compound D).

Garoff et al. teaches a molar ratio of  $Mg/Ti=1.55$ ,  $EtOH/D=0.3$ ,  $D/Ti=1.0$ , when  $X^3 = X^4 = Cl$ ,  $x=3$ ,  $Cl/Ti = 10$  (Table 3 example 3, col.7, lines 31-41, claims 3-5).

Regarding claim 7, as discussed above, the molar ratio of ethanol to di-undecylphthalate is 0.3, which is encompassed by the instant claim.

Regarding claims 8-9, ethanol disclosed by Garoff et al. corresponds to applicant's organo-oxygenated protic compound Dp, wherein  $R=CH_3$ ,  $Am=CH_2$ .

Regarding claim 10, diethyl phthalate and ethyl octyl phthalate taught by Garoff et al. corresponds to applicant's aprotic electron-donor compound D. It is a non-metallic organic ester compound having 12 or 18 carbon atoms as shown below (Table 7, col. 13-14):



Regarding claim 13, the wt% of titanium taught by Garoff et al. is from 5.3% to 7.4%, which is encompassed by the instant claim (Table, 7, col.13-14).

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2-6 and 11-12 rejected under 35 U.S.C. 103(a) as being unpatentable over Garoff et al. (US 6,200,923), as applied to claim 1 above, and further in view of Luciani et al (US 5,278,117).

Regardin claims 2-6, although Garoff et al. does not specifically teach the inorganic solid support material as per applicant's claims 2-6, Luciani et al. teaches a supported catalyst for ethylene polymerization containing a granular solid support with titanium alcoholate (i.e.  $Ti(OBu)_4$ ) and magnesium chloride in hydrocarbon. The molar ratio of  $Ti/Mg$  is 1/1, and the formula  $Ti(OR)_4 \cdot (1-6)MgCl_2$  indicates the molar ratio of  $Cl/Ti = 2-12$  (abstract, claims 1-8), the residual ester (i.e. ethyl acetate) quantity is between 0 and 20%wt, which is encompassed by the instant claim.

Silica (40-85%wt) taught by Luciani et al. has a mean diameter of 40  $\mu m$ , BET 307  $m^2/g$ , total porosity 92.6%, and mean pore radius 132  $\text{\AA}$  (col. 6, lines 1-15, claims 1-8)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Luciani et al. and Luciani et al. to obtain the invention as specified in the claims 2-6, motivated by the fact that the catalyst system is highly active and can produce ethylene polymers with a molecular weight distribution varying from narrow to wide, because the magnesium chloride is deposited in highly active amorphous form on a porous support (col. 1, line 19-col. 2, line 2).

Regarding claims 11-12, Luciani et al. teaches electron donor compound such as ethyl acetate as the instant claims (claim 8).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YUN QIAN whose telephone number is (571)270-5834. The examiner can normally be reached on Monday-Thursday, 10:00am -4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Melvin Curtis Mayes can be reached on 571-272-1234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/YUN QIAN/  
Examiner, Art Unit 1793

April 12, 2010

/Melvin Curtis Mayes/  
Supervisory Patent Examiner, Art Unit 1793